



[7590-01-P]

**NUCLEAR REGULATORY COMMISSION**

**[Docket Nos. 50-213 and 72-39; NRC-2013-0080]**

**Connecticut Yankee Atomic Power Company**

**Haddam Neck Plant**

**Environmental Assessment and Finding of No Significant Impact**

**Regarding an Exemption Request**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Environmental assessment and finding of no significant impact; issuance.

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**FOR FURTHER INFORMATION CONTACT:** John Goshen, Project Manager, Division of Spent Fuel Storage and Transportation, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Telephone: 301-492-3325; fax number: 301-492-3342; e-mail: [John.Goshen@nrc.gov](mailto:John.Goshen@nrc.gov).

## **1.0 Background**

On November 23, 2011, the NRC issued a final rule amending certain emergency planning (EP) requirements in the regulations that govern domestic licensing of production and utilization facilities (76 FR 72560; November 23, 2011) (EP Final Rule). The EP Final Rule went into effect on December 23, 2011, with various implementation dates for the rule changes.

On June 20, 2012, Connecticut Yankee Atomic Power Company (CYAPCO) submitted a letter, "Request for Exemption to Revised Emergency Planning Regulations" (ADAMS Accession No. ML12181A114), requesting exemption from specific EP requirements of Section 50.47 of Title 10 of the *Code of Federal Regulations* (10 CFR) and Appendix E to 10 CFR Part 50 for the Haddam Neck Plant (HNP) Independent Spent Fuel Storage Installation (ISFSI). CYAPCO stated that the exemption request and its impact on the corresponding emergency plan: (1) is authorized by law; (2) will not present an undue risk to the public health and safety; and (3) is consistent with the common defense and security in accordance with Section 50.12 of 10 CFR. CYAPCO states that its intent in submitting this exemption request is to maintain the regulatory structure in place prior to the issuance of the EP Final Rule and, therefore, does not propose any changes to its emergency plan or implementing procedures other than simple regulatory reference changes that can be implemented under 10 CFR 50.54(q).

CYAPCO is holder of Facility Operating License DPR-61 for the HNP located in Middlesex County, Connecticut, that allows only the storage of spent nuclear fuel. The license, issued pursuant to the Atomic Energy Act of 1954, as amended, and Part 50 of 10 CFR, allows CYAPCO to possess and store spent nuclear fuel at the permanently shut down and decommissioned facility under the provision of Part 72, Subpart K of 10 CFR, "General License for Storage of Spent Fuel at Power Reactor Sites." In a letter dated December 5, 1996 (ADAMS Legacy No. 9612110214), CYAPCO informed the NRC that the HNP facility had permanently ceased power operations and fuel had been removed from the reactor and placed in the spent fuel pool.

After ceasing operations at the reactor, CYAPCO transferred spent nuclear fuel from the spent fuel pool to the HNP ISFSI for long term dry storage, and this was completed in 2005. Final decommissioning of the reactor site was completed in 2007 (ADAMS Accession No. ML073250040). The HNP ISFSI is a vertical dry cask storage facility for spent nuclear fuel. The ISFSI is located on approximately five acres of land that was not released for unrestricted use after completion of decommissioning of the reactor.

## **2.0 Discussion**

On May 30, 1997 (ADAMS Legacy Accession No. 9809030182), CYAPCO requested an exemption from the provisions of 10 CFR 50.54(q) that required emergency plans to meet all of the standards of 10 CFR 50.47(b) and all of the requirements of Appendix E to 10 CFR Part 50 so that the licensee would have to meet only certain EP standards and requirements. Additionally, CYAPCO requested approval of a proposed HNP Defueled Emergency Plan (DEP) that proposed to meet those limited standards and requirements.

The NRC approved the requested exemption and the DEP on August 28, 1998 (ADAMS Accession No. ML051020346). The Safety Evaluation Report (SER) established EP requirements for HNP as documented in the DEP. The NRC staff (staff) concluded that the licensee's emergency plan was acceptable in view of the greatly reduced offsite radiological

consequences associated with the decommissioning plant status. The staff found that the postulated dose to the general public from any reasonably conceivable accident would not exceed the U.S. Environmental Protection Agency (EPA) Protective Action Guides (PAGs), and for the bounding accident, the length of time available to respond to a loss of spent fuel cooling or reduction in water level in the spent fuel pool gave confidence that offsite measures for the public could be taken without preparation.

According to CYAPCO, it had placed all spent nuclear fuel and Greater-Than-Class-C waste into dry storage at an ISFSI on the HNP site as of March 30, 2005. CYAPCO revised the DEP to reflect these transfers and the ongoing dismantling and decommissioning activities at the HNP site and submitted these revisions to the NRC through Revision 7 to the CYAPCO HNP Emergency Plan on April 5, 2005 (ADAMS Accession No. ML051020346).

In a letter dated September 18, 2006 (ADAMS Accession No. ML062690475), CYAPCO submitted Revision 8 to the HNP Emergency Plan, an emergency plan change request to the HNP Emergency Plan to revise the exercise frequency from annual to every other year. The NRC approved this request in an exemption letter, dated March 16, 2007 (ADAMS Accession No. ML062980120<sup>1</sup>). This was the only exemption from EP requirements that was requested and approved since the approval and SER for the HNP DEP. The basis for the existing exemptions has not changed since the exemptions were previously granted; therefore CYAPCO continues to be exempt from the EP requirements for which the NRC previously granted exemptions.

Revision 10 of the CYAPCO HNP Emergency Plan, dated November 29, 2011 (ADAMS Accession No. ML11348A113<sup>1</sup>) reflects the current conditions, where only the ISFSI and its related support systems, structures, and components remain.

With the EP Final Rule, several requirements in 10 CFR Part 50 were modified or added, including changes in Section 50.47, Section 50.54, and Appendix E. Specific implementation

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<sup>1</sup> Document contains sensitive security related information and is not publically available.

dates were provided for each EP rule change. The EP Final Rule codified certain voluntary protective measures contained in NRC Bulletin 2005-02, "Emergency Preparedness and Response Actions for Security-Based Events," and generically applicable requirements similar to those previously imposed by NRC Order EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures," dated February 25, 2002.

In addition, the EP Final Rule amended other licensee emergency plan requirements to: (1) enhance the ability of licensees in preparing for and in taking certain protective actions in the event of a radiological emergency; (2) address, in part, security issues identified after the terrorist events of September 11, 2001; (3) clarify regulations to effect consistent emergency plan implementation among licensees; and (4) modify certain EP requirements to be more effective and efficient. However, the EP Final Rule was only an enhancement to the NRC's regulations and was not necessary for adequate protection. On page 72563 of the *Federal Register* notice for the EP Final Rule, the Commission "determined that the existing regulatory structure ensures adequate protection of public health and safety and common defense and security."

### **3.0 Regulatory Evaluation**

In the Final Rule for Storage of Spent Fuel in NRC-Approved Storage Casks at Power Reactor Sites (55 FR 29181; July 18, 1990), the NRC amended its regulations to provide for the storage of spent nuclear fuel under a general license on the site of any nuclear power reactor. In its Statement of Considerations (SOC) for the Final Rule (55 FR 29185), the Commission responded to comments related to emergency preparedness for spent fuel dry storage, stating, "The new 10 CFR 72.32(c) ... states that, 'For an ISFSI that is located on the site of a nuclear power reactor licensed for operation by the Commission, the emergency plan required by 10 CFR 50.47 shall be deemed to satisfy the requirements of this section.' One condition of the general license is that the reactor licensee must review the reactor emergency plan and modify it as necessary to cover dry cask storage and related activities. If the emergency plan is in

compliance with 10 CFR 50.47, then it is in compliance with the Commission's regulations with respect to dry cask storage.”

In the SOC for the Final Rule for EP requirements for ISFSIs and Monitored Retrievable Storage Installation (MRS) (60 FR 32430; June 22, 1995), the Commission stated, in part, that “current reactor emergency plans cover all at-or near reactor ISFSI's. An ISFSI that is to be licensed for a stand-alone operation will need an emergency plan established in accordance with the requirements in this rulemaking” (60 FR 32431). The Commission responded to comments (60 FR 32435) concerning offsite emergency planning for ISFSIs or an MRS and concluded that “the offsite consequences of potential accidents at an ISFSI or a MRS would not warrant establishing Emergency Planning Zones.”

As part of the review for CYAPCO's current exemption request, the staff also used the EP regulations in 10 CFR 72.32 and Spent Fuel Project Office Interim Staff Guidance – 16, “Emergency Planning,” (ADAMS Accession No. ML003724570) as references to ensure consistency between specific-licensed and general-licensed IFSIs.

#### **4.0 Discussion**

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50 when: (1) the exemptions are authorized by law, will not present an undue risk to public health or safety, and are consistent with the common defense and security; and (2) when special circumstances are present. The staff reviewed this request to determine whether the specific exemptions should be granted, and the safety evaluation (SE) is provided in its letter to CYAPCO, dated March 19, 2013 (ADAMS Accession No. ML13064A374). After evaluating the exemption requests, the staff determined CYAPCO should be granted the exemptions detailed in the SE.

The NRC has found that CYAPCO meets the criteria for an exemption in § 50.12. The Atomic Energy Act of 1954, as amended, and the Commission's regulations permit the

Commission to grant exemptions from the regulations in 10 CFR Part 50. Granting exemptions is consistent with the authority provided to the Commission in the Atomic Energy Act of 1954, as amended. Therefore, the exemption is authorized by law.

As noted in Section 2.0, "Discussion," above, CYAPCO's compliance with the EP requirements in effect before the effective date of the EP Final Rule demonstrated reasonable assurance of adequate protection of the public health and safety and common defense and security. In its SE, the NRC staff explains that CYAPCO's implementation of its HNP DEP, with the exemptions, will continue to provide this reasonable assurance of adequate protection. Thus, granting the requested exemptions will not present an undue risk to public health or safety and is not inconsistent with the common defense and security.

For the Commission to grant an exemption, special circumstances must exist. Under § 50.12(a)(2)(ii), special circumstances are present when "[a]pplication of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule." These special circumstances exist here. The NRC has determined that CYAPCO's compliance with the regulations that the staff describes in its SE is not necessary for the licensee to demonstrate that, under its emergency plan, there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Consequently, special circumstances are present because requiring CYAPCO to comply with the regulations that the staff describes in its SE is not necessary to achieve the underlying purpose of the EP regulations.

## **5.0 Environmental Assessment (EA)**

### **Identification of Proposed Action:**

By letter dated July 20, 2012, CYAPCO (ADAMS Accession No. ML12181A114) submitted an exemption request in accordance with 10 CFR 50.12 from specific EP requirements of 10 CFR 50.47 and Appendix E to 10 CFR Part 50 for the HNP. Specifically, the exemption would eliminate unnecessary requirements associated with offsite consequences,

protective actions, hostile action and emergency facilities due to the current status of the HNP.

Need for the Proposed Action:

In accordance with 10 CFR 50.82, the 10 CFR Part 50 licensed area for the HNP has been reduced to a small area surrounding the ISFSI. In this condition, the HNP poses a significantly reduced risk to public health and safety from design basis accidents or credible beyond design basis accidents since these cannot result in radioactive releases which exceed EPA PAGS at the site boundary. Because of this reduced risk, compliance with all the requirements in 10 CFR 50.47 and 10 CFR Part 50, Appendix E is not appropriate. The requested exemption from portions of 10 CFR 50.47 and 10 CFR Part 50, Appendix E is needed to continue implementation of the HNP ISFSI Emergency Plan that is appropriate for a stand-alone ISFSI and is commensurate with the reduced risk posed by the facility. The requested exemption will allow spent fuel to continue to be stored safely without imposing burdensome and costly new requirements that provide no increased safety benefit.

Environmental Impacts of the Proposed Action:

The NRC has determined that, given the continued implementation of the HNP DEP, with the exemptions noted in the SE, no credible events would result in doses to the public beyond the owner controlled area boundary that would exceed the EPA PAGs. Additionally, the staff has concluded that the HNP DEP, with the exemptions described in the SE, provides for an acceptable level of emergency preparedness at the HNP in its shutdown and defueled condition, and also provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the HNP. Based on these findings, the NRC concludes that there are no radiological environmental impacts due to granting the approval of the exemption, the proposed action will not increase the probability or consequences of accidents, no changes are being made in the types or quantities of effluents that may be released offsite, and there is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts



associated with the proposed action. The proposed action does not affect non-radiological plant effluents and has no other environmental impact. Therefore, there are no significant non-radiological impacts associated with the proposed action. Based on the assessment above, the proposed action will not have a significant effect on the quality of the human environment.

Alternative to the Proposed Action:

Since there is no significant environmental impact associated with the proposed action, any alternatives with equal or greater environmental impact are not evaluated. The alternative to the proposed action would be to deny approval of the exemption. This alternative would have the same environmental impact.

FINDING OF NO SIGNIFICANT IMPACT

The environmental impacts of the proposed action have been reviewed in accordance with the requirements set forth in 10 CFR Part 51. Based upon the EA, the Commission finds that the proposed action of granting an exemption will not significantly impact the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed exemption.

**6.0 Conclusion**

The staff concluded that the licensee's request for an exemption from certain requirements of 10 CFR 50.47(b) and 10 CFR Part 50, Appendix E, Section IV as specified in the SE is acceptable in view of the greatly reduced offsite radiological consequences associated with the ISFSI. The exemption request has been reviewed against the acceptance criteria included in 10 CFR 50.47, Appendix E to 10 CFR Part 50, 10 CFR 72.32 and Interim Staff Guidance – 16. The review considered the ISFSI and the low likelihood of any credible accident resulting in radiological releases requiring offsite protective measures. These evaluations were supported by the previously documented licensee and staff accident analyses. The staff concludes that: the HNP Emergency Plan provides: (1) an adequate basis for an acceptable state of emergency preparedness; and (2) the Emergency Plan, in conjunction with

arrangements made with offsite response agencies, provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the HNP facility.

As discussed in Section 5.0, the Commission has determined that these exemptions will not significantly impact the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed exemptions.

The NRC has determined that pursuant to 10 CFR 50.12, the exemptions described in the SE are authorized by law, will not endanger life or property or the common defense and security, and are otherwise in the public interest, and special circumstances are present. Therefore, the NRC hereby grants the exemptions listed in the SE, which are effective upon issuance.

## **7.0 Further Information**

Documents related to this action, including the application for renewal and supporting documentation, are available electronically at the NRC's Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. From this site, you can access the NRC's ADAMS, which provides text and image files of NRC's public documents. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC Public Document Room (PDR) Reference staff at 1-800-397-4209, 301-415-4737 or by email to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). These documents may also be viewed electronically on the public computers located at the NRC's PDR, O 1 F21, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852. The PDR reproduction contractor will copy documents for a fee.

Dated at Rockville, Maryland, this 19<sup>th</sup> day of April, 2013.

FOR THE NUCLEAR REGULATORY COMMISSION

Mark D. Lombard, Director  
Division of Spent Fuel Storage and Transportation  
Office of Nuclear Material Safety  
and Safeguards

Dated at Rockville, Maryland, this 19<sup>th</sup> day of April, 2013.

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Mark D. Lombard, Director  
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